

## WHAT IS CLAIMED IS:

1. A semiconductor laser diode chip comprising:

a first mark formed at a predetermined position with respect to an active layer on a face opposed to a substrate to which the chip is mounted; and

5 a second mark that satisfies a predetermined relative position relation to said first mark and is positioned oppositely to a substrate-side mark formed on said substrate at mounting time to said substrate.

10 2. A semiconductor laser diode chip as claimed in claim 1, wherein

15 said first mark is constructed by a thin line pattern formed along said active layer in the vicinity of this active layer.

3. A semiconductor laser diode chip as claimed in claim 2, wherein

20 said thin line pattern is constructed by a metallic film formed in plural thin parallel straight lines.

4. A semiconductor laser diode chip as claimed in claim 1, wherein

25 said first mark is constructed by a thin line formed on an upper portion of said active layer.

5. A semiconductor laser diode chip as claimed in claim 4, wherein

25 said mark for measurement has approximately the same

width as that of said active layer.

6. A semiconductor laser diode chip as claimed in claim 1,  
wherein

5        said second mark is constructed by a pair of marks  
formed on both sides of said active layer.

7. A semiconductor laser diode chip as claimed in claim 6,  
wherein

      said second mark has a circular shape.

8. A semiconductor laser diode chip as claimed in claim 7,  
10      wherein

      said substrate side mark has a circular shape having a  
diameter different from that of said second mark.

9. A semiconductor laser diode chip as claimed in claim 1,  
wherein

15        a plurality of said substrate side marks and a  
plurality of said second marks are formed, respectively.

10. A mounting method of a semiconductor laser diode chip  
having an active layer, for mounting the SEMICONDUCTOR LASER  
DIODE chip to a substrate at its predetermined position;

20        said semiconductor laser diode comprising:

      a first mark formed in the vicinity of said active  
layer; and

      a second positioning mark with respect to said  
substrate;

25        said substrate having a substrate side mark formed at a

position opposed to said second mark when said semiconductor laser diode chip is arranged in the predetermined position;  
the mounting method including:

5 a process for measuring a position relation of said active layer and said second mark;

a process for setting said second mark and said substrate side mark to be opposed to each other and arranging said semiconductor laser diode chip in said substrate; and

10 a process for correcting the position of said semiconductor laser diode chip on the basis of said position relation and fixing said semiconductor laser diode chip to said substrate.

11. A mounting method of a semiconductor laser diode chip as claimed in claim 10, wherein

15 said second mark is constructed by a thin line pattern formed along said active layer in the vicinity of this active layer.

12. A mounting method of a semiconductor laser diode chip as claimed in claim 11, wherein

20 said thin line pattern is constructed by a metallic film formed in plural thin parallel straight lines.

13. A mounting method of a semiconductor laser diode chip as claimed in claim 10, wherein

25 said second mark is constructed by a thin line formed at an upper portion of said active layer.

14. A mounting method of a semiconductor laser diode chip as claimed in claim 13, wherein

    said second mark has approximately the same width as that of said active layer.

5   15. A mounting method of a semiconductor laser diode chip as claimed in claim 9, wherein

    said first mark is constructed by a pair of marks formed on both sides of said active layer.

10   16. A mounting method of a semiconductor laser diode chip as claimed in claim 15, wherein

    said first mark has a circular shape.

17. A mounting method of a semiconductor laser diode chip as claimed in claim 15, wherein

15   said substrate side mark has a circular shape having a diameter different from that of said second mark.

18. A mounting method of a semiconductor laser diode chip as claimed in claim 10, wherein

    each of said first and second marks is constructed by a metallic thin film and is formed by the same process.

20   19. A mounting method of a semiconductor laser diode chip as claimed in claim 10, wherein

    said substrate has a V-groove the center of which coincides with the central axis of said active layer.

25   20. A mounting method of a semiconductor laser diode chip as claimed in claim 10, wherein



a plurality of said substrate side marks and a plurality of said second marks are formed, respectively.